

# **2014 IEEE Symposium on Wireless Technology and Applications**

**(ISWTA 2014)**

**Kota Kinabalu, Malaysia  
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## **ISWTA1: Wireless Communication Technology**

Room: Function Room 4

Time: 10:00 – 11:40

Chairs: Mohd Khairul Mohd Salleh (Universiti Teknologi MARA & Microwave Technology Centre, Malaysia), Gaëtan Prigent (LAPLACE & GRE, France)

### **10:00 Design of a Reconfigurable Bandpass Filter Based on Dual-Band Dual Behavior Resonator**

Gaëtan Prigent (LAPLACE & GRE, France); Thanh Mai VU (University of Toulouse, Malaysia); Mohd Khairul Mohd Salleh (Universiti Teknologi MARA & Microwave Technology Centre, Malaysia) pg 1

### **10:20 Probe Pitch and Taper Feed Lines Dispersive Effect on the Measured Characteristic Impedances**

Anne-Laure Franc (University of Toulouse - INPT - UPS & LAPLACE - ENSEEIHT, France); Emmanuel Pistono (IMEP-LAHC Grenoble, France); Gaëtan Prigent (LAPLACE & GRE, France); Philippe Ferrari (University Grenoble Alpes, IMEP-LAHC, CNRS, France); Mohd Khairul Mohd Salleh (Universiti Teknologi MARA & Microwave Technology Centre, Malaysia) pg 5

### **10:40 Design of an Economical 3.8 GHz Oscillator Which Gives Low Phase Noise of -120 dBc/Hz At Off-Set Frequency of 100 Hz - 100 kHz**

Alan Wong and Boonsing Yap (Inti International College Penang, Malaysia) pg 8

### **11:00 Design Considerations for X-Band Class J Power Amplifiers**

Miguel Carlo Purisima (University of the Philippines, Philippines); Joel Joseph Jr. S. Marciano (University of the Philippines & Wireless Communications Engineering Laboratory, Philippines) pg 13

### **11:20 Effects of Bending on Paper-Based EBG and Fractal Antennas**

Zaiki Awang (Universiti Teknologi MARA, Malaysia); Anis Nordin (International Islamic University Malaysia, Malaysia); Nik Nurul Azuin Nik Abdul Rahman (Universiti Teknologi MARA, Malaysia) pg 19

## **ISWTA2: Wireless, Mobile, Network and Security**

Room: Function Room 4

Chairs: Azlina Idris (Universiti Teknologi MARA, Malaysia), Patrick Hosein (University of the West Indies, Trinidad and Tobago)

### **13:20 Localization of Mobile Transmitting Devices in Non Line-of-Sight (NLOS) Multipath Environments Using MIMO Radar Technology**

Fayyaz Muhammad (Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences, P.R. China); Huiyun Li (Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences & The Chinese University of Hong Kong, P.R. China) pg 24

### **13:40 Load Metric for QoS-enabled Cellular Networks and Its Possible Use in Pricing Strategies**

Ramneek Sekhon (Korea Institute of Science and Technology Information, Korea); Patrick Hosein (University of the West Indies, Trinidad and Tobago); Woojin Seok (Korea Institute of Science and Technology information, Korea) pg 30

### **14:00 An Intelligent Load Balancing and Offloading in 3G - WiFi Offload Network Using Hybrid and Distance Vector Algorithm**

M. Asvial and Setiyo Budiyanto (University of Indonesia, Indonesia); Dadang Gunawan (Universitas Indonesia, Indonesia) pg 36

### **14:20 Relay Precoding for Dual-Hop MIMO Network Using Per Antenna SLNR Maximization**

Abdul Sattar Saand (Universiti Teknologi PETRONAS, Malaysia); Varun Jeoti (University Teknologi PETRONAS, Malaysia); Mohamad Naufal Mohamad Saad (Universiti Teknologi Petronas, Malaysia) pg 41

### **14:40 An Efficient High Performance Turbo Code Implementation in Rayleigh Fading Channel**

Pooja Chhabra (USICT, GGSIPU, India); Vandana Nath (Guru Gobind Singh Indraprastha University, India) pg 47

### **15:00 Tea Break**

### **15:20 A Novel Coding Scheme for QAM Using Variational Bayesian Inference**

Mohammad A. Shehab and Ehab F. Badran (Arab Academy for Science, Technology and Maritime Transport, Egypt); Amira I Zaki (Arab Academy for Science and Technology, Egypt) pg 53

**15:40 QPSK Modulation Using Multi-Port Device**

Noor Suhaira Alia Arshad, Siti Zuraidah Ibrahim, Mohammad Shahrazel Razalli and Wai Loon Cheor (Universiti Malaysia Perlis, Malaysia) pg 58

**16:00 An Analytical Model for Estimating the Impact of MAC Layer Misbehavior in IEEE 802.11 Networks**

Trong-Minh Hoang, Tuan-Linh Tu and Thanh-Tra Nguyen (Posts and Telecommunications Institute of Technology, Vietnam) pg 64

**16:20 On the Extension of Traditional Resource Allocation Algorithms in LTE-A to Joint UL-DL Scheduling with FDD Carrier Aggregation**

Abdulaziz M. Ghaleb and Elias Yaacoub (Qatar Mobility Innovations Center (QMIC), Qatar); Ayad Atiyah Abdulkafi (Universiti Tenaga Nasional & MIMOS, Malaysia) pg 70

**16:40 Reduction of ISI Using Different Equalization of Adaptive Algorithm for Mobile WiMAX Communication System**

Azlina Idris (Universiti Teknologi MARA, Malaysia); Norsuzila Ya'acob (Universiti Teknologi Mara, Malaysia); Siti Maisurah Sulong (UiTM, Malaysia) pg 75

Tuesday, September 30

**ISWTA3: Radio Propagation and Antenna 1**

Room: Function Room 4

Chairs: Sharul Kamal A. Rahim (Universiti Teknologi Malaysia, Malaysia),  
Faizal Jamlos (Universiti Malaysia Perlis, Malaysia)

**08:00 Miniaturized Proximity Coupled Antenna with Slot Ring as Defected Ground Structure**

Mursyidul idzam Sabran and Sharul Kamal A. Rahim (Universiti Teknologi Malaysia, Malaysia); Mohd Fairus Mohd Yusof (Faculty of Electrical Engineering, Universiti Teknologi Malaysia, Malaysia); Akaa A Eteng (Universiti Teknologi Malaysia, Malaysia); Muhammad Zairil Muhammad Nor (Universiti Teknologi Mara, Malaysia); Imran Mohd Ibrahim (Universiti Teknikal Malaysia Melaka, Malaysia) pg 81

**08:20 Beampattern Optimization in Distributed Beamforming Using Multiobjective and Metaheuristic Method**

Suhanya Jayaprakasam, Sharul Kamal A. Rahim and Chee Yen (Bruce) Leow (Universiti Teknologi Malaysia, Malaysia); Mohd Fairus Mohd Yusof (Faculty of Electrical Engineering, Universiti Teknologi Malaysia, Malaysia) pg 86

**08:40 Loop Antenna Design for Lateral H-Field Uniformity in Misaligned HF-RFID Links**

Akaa A Eteng, Sharul Kamal A. Rahim, Chee Yen (Bruce) Leow and Mursyidul idzam Sabran (Universiti Teknologi Malaysia, Malaysia); Mohd Fairus Mohd Yusof (Faculty of Electrical Engineering, Universiti Teknologi Malaysia, Malaysia) pg 92

**09:00 A Reconfigurable Mems Beam Steering Array (RMBSA) Antenna for Smart Radar Application**

Herwansyah bin Lago (Universiti Malaysia Perlis UniMAP, Malaysia); Faizal Jamlos (Universiti Malaysia Perlis, Malaysia); Siti Zubaidah Aziz (UNIMAP, Malaysia); Nur Akmal Abd. Rahman (Universiti Malaysia Perlis, Malaysia) pg 96

**09:20 Lung Tumour Detection From A System of Scattering Parameters**

Oluwatosin Babarinde and Faizal Jamlos (Universiti Malaysia Perlis, Malaysia) pg 100

**09:40 Tea Break**

**10:00 A Compact Super Wide Band Antenna with High Gain for Medical Applications**

Aminudin Jamlos (Advanced Communication Engineering (ACE) Centre, Malaysia); Abdul Hafizh Ismail (UniMAP, Malaysia); Sabira Khatun (University Malaysia Perlis (UNIMAP), Malaysia) pg 106

**10:20 Improved Global Positioning System (GPS) Positioning Error by Mitigating Ionospheric Scintillation**

Yih Hwa Ho (Universiti Teknikal Malaysia Melaka, Malaysia); Sabirin Abdullah (Universiti Kebangsaan Malaysia, Malaysia) pg 110

**10:40 A High Gain Reconfigurable Narrow Beam Steering Array (RNBSA) Antenna with MEMS**

Herwansyah bin Lago (Universiti Malaysia Perlis UniMAP, Malaysia); Faizal Jamlos (Universiti Malaysia Perlis, Malaysia); Siti Zubaidah Aziz (UNIMAP, Malaysia); Nur Akmal Abd. Rahman (Universiti Malaysia Perlis, Malaysia) pg 116

**11:00 MIMO 2×2 RHCP Array Antenna for Point-to-Point Communication**

Mohd Khairul Azhar Nayan and Faizal Jamlos (Universiti Malaysia Perlis, Malaysia); Herwansyah bin Lago (Universiti Malaysia Perlis UniMAP, Malaysia); Aminudin Jamlos (Advanced Communication Engineering (ACE) Centre, Malaysia) pg 121

**11:20 Escherichia Coli Detection in Different Types of Water**

Siti Zubaidah Aziz (UNIMAP, Malaysia); Faizal Jamlos (Universiti Malaysia Perlis, Malaysia); Aminudin Jamlos (Advanced Communication Engineering (ACE) Centre, Malaysia) pg 125

**ISWTA4: Radio Propagation and Antenna 2**

Room: Function Room 4

Chairs: Norun Abdul Malek (International Islamic University Malaysia, Malaysia), Mohd Tarmizi Ali (Universiti Teknologi Mara, Malaysia)

**13:20 UWB Microwave Imaging for Lung Tumor Detection in a Thorax Model**

Oluwatosin Babarinde and Faizal Jamlos (Universiti Malaysia Perlis, Malaysia) pg 130

**13:40 Compact Circularly Polarized Textile Antenna**

Muhammad Faizal Ismail (Universiti Tun Hussein Onn Malaysia, Malaysia); Mohamad Kamal A. Rahim (Universiti Teknologi Malaysia, Malaysia); Mohd Sabani Mohd and Eddy Irwan Shah Saadon (Universiti Tun Hussein Onn Malaysia, Malaysia) pg 134

**14:00 Comparison of ITU-R Predicted Rainfall Rates Against Measured Data in Malaysia**

Muhamad Haziq Khairolanuar (International Islamic University of Malaysia, Malaysia); Ahmad Fadzil Ismail and Ahmad Jusoh (International Islamic University Malaysia, Malaysia); Sheroz Khan (International Islamic University Malaysia, Malaysia); Zahirul

Alam (Prof, Malaysia) pg 137

**14:20 Assessment of ITU-R Conversion Method for 1-minute Integration Time of Precipitation Intensity in Malaysia**

Muhamad Haziq Khairolanuar (International Islamic University of Malaysia, Malaysia); Ahmad Fadzil Ismail and [Ahmad Jusoh](#) (International Islamic University Malaysia, Malaysia); Sheroz Khan (International Islamic University Malaysia, Malaysia); Zahirul Alam (Prof, Malaysia) pg 141

**14:40 Beam Steering of Four Dipoles Antenna Array Using Genetic Algorithm**

[Norun Abdul Malek](#) (International Islamic University Malaysia, Malaysia); Rob Seager and James A. Flint (Loughborough University, United Kingdom) pg 146

**15:00 Tea Break**

**15:20 Bandwidth Enhancement of a Microstrip Antenna Array Using Magneto-Dielectric Polymer Substrate (PDMS-Fe<sub>3</sub>O<sub>4</sub>)**

Abdulrahman Shueai Mohsen Alqadami (Advanced Communication Engineering Centre (ACE), University Malaysia Perlis (UniMAP), Malaysia); Faizal Jamlos (Universiti Malaysia Perlis, Malaysia); Herwansyah bin Lago (Universiti Malaysia Perlis UniMAP, Malaysia); [Oluwatosin Babarinde](#) (Universiti Malaysia Perlis, Malaysia) pg 152

**15:40 Frequency Reconfigurable Rectangular Ring Dielectric Resonator Antenna**

[Shadi Danesh](#) (Wireless Communication Centre, Faculty of Electrical Engineering, Universiti Teknologi Malaysia, Malaysia); Sharul Kamal A. Rahim (Universiti Teknologi Malaysia, Malaysia); Mohammad Abedian Kasgari (Wireless Communication Centre, Faculty of Electrical Engineering, Universiti Teknologi Malaysia, Malaysia); Mohd Fairus Mohd Yusof (Faculty of Electrical Engineering, Universiti Teknologi Malaysia, Malaysia) pg 156

**16:00 Compact Microstrip Patch UHF-RFID Tag Antenna for Metal Object**

Najwa Mohd Faudzi and Mohd Tarmizi Ali (Universiti Teknologi Mara, Malaysia); [Hadi Jumaat](#) and Nur Hidayah Mohd Sukaimi (Universiti Teknologi MARA, Malaysia); Ismarani Ismail (University Technology MARA & UiTM, Malaysia) pg 160

**16:20 An Optimum Quarter-wave Impedance Matching Feedline for Circular UWB Array Antenna with High Gain Performance**

[Aminudin Jamlos](#) (Advanced Communication Engineering (ACE) Centre, Malaysia); Abdul Hafiizh Ismail (UniMAP, Malaysia); Herwansyah bin Lago (Universiti Malaysia Perlis UniMAP, Malaysia); Sabira Khatun (University Malaysia Perlis (UNIMAP), Malaysia) pg 165

**16:40 Design and Analysis of Defected Ground Structure (DGS) in Normal Mode Helical Antenna**

Nabilah Ripin (UiTM, Malaysia); Ahmad Asari Sulaiman and Nur Emileen Abd Rashid (Universiti Teknologi MARA, Malaysia); Mohamad Fahmi Hussin (UiTM, Malaysia) pg 170

**ISWTA5: Wireless Communication Technology**

Room: Function Room 3

Chairs: Nooritawati Md Tahir (Universiti Teknologi MARA, Malaysia),  
Norsuzila Ya'acob (Universiti Teknologi Mara, Malaysia)

**13:20 RFID(NFC) Application Employment on Inventory Tracking to Improve Security**

Norsuzila Ya'acob (Universiti Teknologi Mara, Malaysia); Azlina Idris (Universiti Teknologi MARA, Malaysia); Azita Laily Yusof (Universiti Teknologi Mara, Malaysia); Mohd Zikrul Hakim (Universiti Teknologi MARA, UiTM, Malaysia); Mohd Mikail Mohd Efendy Goon (UiTM, Malaysia) pg 176

**13:40 Miniaturized Band Pass Double-Layered Frequency Selective Superstrate for Wi-Max Applications**

Sanjeev Yadav (Govt. Women Engineering College Ajmer, India); Bhavana Peswani (Govt. Women Engineering College Ajmer, (Raj). India, India); Ruchika Choudhary (Govt. Engineering College Ajmer, India); Mahendra Mohan Sharma (Malaviya National Institute of Technology & Principal Govt Engineering College Ajmer INDIA, India) pg 182

**14:00 Arabic Phonemes Recognition System Based on Malay Speakers Using Neural Network**

Ali Abd Almisreb (Universiti Teknologi MARA, Malaysia); Ahmad Farid Abidin (Faculty of Electrical Engineering, Universiti Teknologi Mara, Malaysia); Nooritawati Md Tahir (Universiti Teknologi MARA, Malaysia) pg 188

**14:20 Malaysian Tourism Interest Forecasting Using Nonlinear Auto-Regressive Moving Average (NARMA) Model**

Ihsan M. Yassin (Universiti Teknologi Mara, Malaysia); Nooritawati Md Tahir and Azlee Zabidi (Universiti Teknologi MARA, Malaysia); Syahril Nizam Kadir (UiTM, Malaysia) pg 193



**14:40 A Data Collection Approach for Mobile Botnet Analysis and Detection**

Meisam Eslahi (Universiti Teknologi MARA, Malaysia); Mohammad Reza Rostami (Universiti Teknologi Malaysia, Malaysia); Maryam Var Naseri (Asia Pacific University (APU), Malaysia); Habibah Hashim and Nooritawati Md Tahir (Universiti Teknologi MARA, Malaysia) pg 199

**15:00 Performance and Impact Analysis of Grid Connected Photovoltaic System to the Utility Grid**

Puteri Nor Ashikin Megat Yunus (Universiti Teknologi Mara, Malaysia); Suhaili Beeran Kutty (UiTM Shah Alam, Malaysia); Tuan Norjihhan Tuan Yaakub (University Teknologi MARA, Malaysia); Mesi Koingud (Universiti Teknologi MARA, Malaysia) pg 205